

SOFREL LS-Flow

REMOTE READING OF FLOW METERS AND DISTRICT METERING



USES AND BENEFITS

- **Remote reading of "major consumers" meters**
 - Monitor consumption levels
 - Detect consumption anomalies
 - Billing contribution
- **Remote reading of interconnection meters**
 - Inter-network transfer monitoring
- **Periodic reading of flow-meter registers**
 - Remote reading of electromagnetic flow-meters
 - Instantaneous flow monitoring
 - Flow-meter operational alarm monitoring
- **District Metering**
 - Leaking sectors detection
 - Pressure and flow monitoring
 - Immediate alarm in case of an upstream or downstream pipe breakage
 - Improved network performance

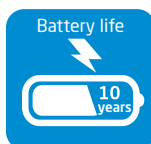
PRODUCT FEATURE

- Enhanced IP68 waterproof rating
- Battery powered or external power supply*: (Photovoltaic cell, mains power, micro-turbine or battery kit)
- Integrated high performance 2G/3G antenna
- Automatic reception testing for best 2G/3G operator
- Access to the SIM card and battery on site
- RS485 link for direct reading of internal flow-meter data (SIEMENS MAG 8000, ABB Aquamaster, KROHNE Waterflux or ARAD Octave)
- 3-year manufacturer guarantee

* Only flex version

EASE OF USE

- On-site communication and exploitation via Bluetooth link
- Open to supervisory control software and third-party applications of major water operators
- Specific communication protocol guaranteeing data availability
- Simplified data exploitation via the SOFREL WEB LS IoT platform



GENERAL FEATURES:

Mechanical design	Screwless opening system for easy access to the SIM card and battery
Dimensions	H 261 x W 155 mm
Weight	1,1 kg
Operating temperature	-20°C to +55°C
Storage temperature	-25°C to +70°C
Watertightness	Enhanced IP68 certification (100 days under 1 meter of water)
Power supply	Powered by an internal lithium battery or by an external source* (photovoltaic cell, main power, micro turbine, or battery kit - Input voltage : 5-30VDC - Required power : 3W – Inrush current : 3A)
Connector types	Military-grade hermetic connector

DATA LOGGER INPUTS:

RS485	RS-485 MODBUS link for interfacing with "SIEMENS MAG 8000", "ABB Aquamaster", "KROHNE Waterflux" and "ARAD Octave" type electromagnetic flow-meters Periodic acquisition of index values, instantaneous flow and alarms related to flow-meter performance Periodic acquisition of temperature and pressure data according to the electromagnetic flow-meter model
AI (Analog Inputs)	1 analog input for SOFREL pressure sensors or remote powering of third-party sensors Remote powering of third-party sensors via 4-20 mA loop, 12 V or 20 V

COMMUNICATION:

2G/3G quad-band chipset	Quad-band GSM/GPRS/EDGE (850 MHz, 900 MHz, 1800 MHz, 1900 MHz) Hexa-band UMTS WCDMA FDD (800 MHz (B19), 850 MHz (B5/B6), 900 MHz (B8), 1900 MHz (B2), 2100 MHz (B1))
Supported SIM cards	Mini SIM cards Nano and Micro SIM cards can be inserted using an adapter
Versatile antenna (FLEX version)	4-meters, IP68-certified external antenna
Data logger synchronisation	Daily synchronisation of the LS via the SCADA
Communication with 1 or 2 PCs	Periodic, programmed or event-based
Inter-sites communication to S500, S4W or AS	Periodic or event-driven (change of DI status or threshold exceedance)
Alert transmitted to mobile via SMS	Upon change in DI state, exceeded threshold, sensor fault...

CONFIGURATION AND COMMISSIONING:

Bluetooth	Data logger configuration via Bluetooth link
Assistance with commissioning	3G and 2G reception level measurement Best 3G and 2G operator test LEDs for visual diagnosis of operation and 3G/2G signal
Assistance with maintenance	Remaining battery life calculator

ARCHIVING:

Local archiving capacity	50,000 data points
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PROCESSING:

district metering	Calculation of average flows Calculation of night flows Calculation of daily volumes, daily minimum and maximum flow
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CERTIFICATIONS:

CE Certification	2014/53/UE	"Radio equipment"
	2014/30/UE	"Electromagnetic compatibility"
	2014/35/UE	"Low voltage"
Enhanced IP68 certification	Extended immersion test (100 days under 1 meter of water) performed by an independent laboratory	

STANDARD BATTERY LIFE:

2 counts and 1 pressure measurement every 15 minutes, processing and daily transmission to the SCADA	10 years
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* Only flex version